MINUTES

TRI-SERVICE CADD/GIS TECHNOLOGY CENTER

ENVIRONMENTAL FIELD WORKING GROUP MEETING

February 14 - 15, 1996

Courtyard Marriott, Arlington, Texas

March 4, 1996
Final

Tri-Service CADD/GIS Technology Center
Information Technology Laboratory
USAE Waterways Experiment Station
3909 Halls Ferry Road
Vicksburg, Mississippi 39180-6199

Tri-Service CADD/GIS Technology Center

Environmental Field Working Group Meeting

14-15 February 1996

at

Courtyard Marriott, Arlington, Texas

AGENDA

WEDNESDAY, 14 February 1996

1330	Meeting Overview - Bobby Carpenter
1400	Update on Tri-Service CADD/GIS Technology Center and Center's FY96 Projects - Bobby Carpenter
1430	Update on AF Installation Restoration Program Information Management System (IRPIMS) - Phil Hunter
1500	Break
1515	Update on SW Div, NAVFACENGCOM, Navy Environmental Data Transfer Standard (NEDTS) - Christopher Kyburg
1545	Review and Discuss Proposed Environmental Hazards symbols - Bobby Carpenter/Group
1700	Adjourn

THURSDAY, 15 February 1996

0800	Review and Discuss Scope for FY96 Task No. 106 - Identify and Review Environmental Restoration/Compliance Initiatives and Communicate with other Agencies/Organizations - Bobby Carpenter/Group
0900	Finalize steps for completing Task No. 106 in FY96 - Steven Gonzales/Group
1015	Break
1030	Review and Discuss Organization and Content of Environmental FWG's Internet Homepage - Bobby Carpenter/Group
1130	Schedule and Location for Additional FY96 Environmental FWG Meetings - Christopher Kyburg/Group
1200	Lunch
1300	Meet for Field Trip to the Fort Worth District Corps of Engineers - Randall Mayne (Host)
1330	Travel to Fort Worth District Corps of Engineers - Randall Mayne (Host)

1400 Tour of CADD/GIS Facilities at Fort Worth District - Randall Mayne (Host)

1600 Adjourn

Future Environmental Field Working Group (FWG) Meetings

The next Environmental FWG meeting is currently scheduled for May 21 - 23, 1996 at Arlington, Texas. This meeting will be similar to the one held in May 1995, when all of the Tri-Service CADD/GIS Technology Center's (TSTC's) field working groups met concurrently with the TSTC's Field Technical Advisory Group (FTAG). The focus of this meeting will be project proposals for FY97.

An additional Environmental FWG meeting was tentatively scheduled for the month of July, 1996 at San Diego, California.

Attendees

1. Name: Phil Hunter
   Title/Position: Hydrologist
   Address: HQ Air Force Center for Environmental Excellence
   AFCEE/ERC
   8001 Arnold Drive
   Brooks AFB, TX 78235-5329
   Phone: 210-536-5281
   Fax: 210-536-5989
   E-mail Address: phunter@afceeb1.brooks.af.mil

2. Name: Terri Bright
   Title/Position:
   Address: Army Environmental Center
   SFIM-AEC-ECN
   Bldg. 4435
   Aberdeen Proving Ground-EA, MD 21010-5401
   Phone: 410-612-7078
   Fax: 410-671-1680
   E-mail Address: tabright@aec1.apgea.army.mil

3. Name: Vicky Cwiertnie
   Title/Position: Environmental Engineer
   Address: Commander USAAPPSA
   Directorate of Safety, Health, and Environment
   ATTN: STEAP-SH-ER (Victoria Cwiertnie)
   Aberdeen Proving Ground, MD 21005-5001
   Phone: 410-278-6755
   Fax: 410-278-6779
   E-mail Address: vcwiert@eagle.apg.army.mil

4. Name: Sam Bass
Title/Position: Geologist
Address: USAE District, Omaha
Center of Expertise for HTRW
CEMRO-HX-G
12565 W. Center Road
Omaha, NE 68144
Phone: 402-697-2654
Fax: 402-697-2673
E-mail Address: c0edtdbb@mrd42.mrd.usace.army.mil

5. Name: Christopher Kyburg
Title/Position: Chemical Engineer
Address: SW Division, Naval Facilities Engineering Command
1220 Pacific Highway
Code 1852, Environmental
San Diego, CA 92132-5190
Phone: 619-532-1998
Fax: 619-532-2469
E-mail Address: cekyburg@efdswest.navfac.navy.mil

6. Name: Steven C. Gonzales
Title/Position: Environmental Engineer
Address: Naval Facilities Engineering Command HQ
200 Stovall Street
Code 42, Environmental
Alexandria, VA 22332-2300
Phone: 703-325-0356
Fax: 703-325-2156
E-mail Address: scgonzales@hq.navfac.navy.mil

7. Name: Dave Koran
Title/Position: Chemist
Address: HQUSACE, CEMP-RT
20 Massachusetts Avenue, NW
Washington, DC 20314-1000
Phone: 202-761-4989
Fax: 202-761-4879
E-mail Address: david.koran@inet.hq.usace.army.mil

Meeting Overview

Mr. Bobby Carpenter passed out a summary describing how to process and close out Military Interdepartmental Purchase Requests (MIPRs). A copy of this summary is included in Appendix A.

A package containing a copy of the meeting agenda; the Environmental FWG objectives developed in May 1995; and information on Task No. 106 was also distributed to the group. The agenda was changed to allow for review of the symbols to be developed at the TSTC for the point features included in Release 1.4 of the Tri-Service Spatial Data Standards.

The Environmental FWG objectives were developed at a brief meeting held in May 1995. They are general in nature and will be reviewed, discussed, and expanded on in the upcoming May 1996 Environmental FWG meeting. A copy of the goals are included in Appendix B.

Task 106 is the Environmental FWG's project for FY96. A copy of the distributed information concerning this project is included in Appendix C.

Update on Tri-Service CADD/GIS Technology Center and Center's FY96 Projects

Mr. Carpenter provided a presentation summarizing the organization and activities of the TSTC and it's FY96 projects. A copy of the presentation view graphs is included in Appendix D.

The TSTC was established at the Waterways Experiment Station in October 1992. The TSTC's mission is to serve as a multi-service vehicle to set standards; coordinate facilities CADD and GIS systems within the Department of Defense; promote system integration; support centralized acquisition; and provide assistance for the installation, training, operation, and maintenance of CADD and GIS systems.

The TSTC currently has nine FWG's whose functions are to provide guidance and input to the TSTC; recommend CADD and GIS related projects which are of benefit to the Tri-Services (i.e., Army, Navy, and Air Force); identify CADD and GIS related needs; and assist the TSTC in accomplishing it's projects. The FWG's include Design, Facility Management (Space Utilization), Facility Management (Maintenance and Repair), Cultural/Natural Resources, Civil Planning, Military Planning, Construction, Systems, and Environmental.

The TSTC's FY96 Work Plan includes 32 projects, 16 of which are new starts. A list of the FY96 projects are included in Appendix E. Projects are grouped by the following functions:

a. Standards.

b. Advanced Technology.
c. Communications
d. Contracting.
e. Education.

One of the TSTC's functions is to provide CADD and GIS related training that is not already available from various venders. Information concerning personal computer (PC) based environmental management training which is currently scheduled for July 1996 is included in Appendix D.

Update on AF Installation Restoration Program Information Management System (IRPIMS)

Mr. Phil Hunter provided an update on the Air Force's Installation Restoration Program Information Management System (IRPIMS), which is maintained by the HQ Air Force Center for Environmental Excellence (AFCEE). IRPIMS is an information management system which the Air Force uses to store and manage the data required to accomplish environmental restoration activities at Installation Restoration Program (IRP) sites. The data is stored in an Oracle database. AFCEE has recently ported the database schema to a Microsoft Access database format. Mr. Hunter indicated that the Air Force has appropriated funds to expand the current capability of IRPIMS. A copy of the presentation view graphs is included in Appendix F.

AFCEE has developed a homepage on the internet (http://www.afcee.brooks.af.mil). The homepage provides information concerning AFCEE's programs and projects. The IRPIMS software and documentation can be downloaded from the internet at address http://www.afcee.brooks.af.mil/irp_docs.htm.

Update on SW Division, NAVFACENGCOM, Navy Environmental Data Transfer Standard (NEDTS)

Mr. Christopher Kyburg provided an update on the NEDTS, which was developed at the Southwest Division, Naval Facilities Engineering Command (NAVFACENGCOM). The contractor collects, stores, and delivers the environmental restoration data to the Navy in a standardized format called ITEMS (IT Corporation Environmental Management System). ITEMS was developed by the IT Corporation under a contract to SW Div., NAVFACENGCOM. Version 3 is the current version being used.

Upon receipt from the contractor, the ITEMS data is then loaded into Intergraph's MGE Environmental Manager (ERMA) data loader. The data loader checks the validity of the data and formats the data for reporting or analysis purposes using ERMA . The data loader checks the data for proper format and provides a detailed report for data which was rejected which can be provided back to the contractor for resolution.

Review Environmental Hazards Entity Set Symbols

The group reviewed a draft set of point symbols for the entity types included in Release 1.4 of the Environmental Hazards Entity Set of the Tri-Service Spatial Data Standards (TSSDS). The TSTC has not identified any industry or government standards for the symbols. The TSTC will develop the symbols in ESRI ARC/INFO, Autodesk AutoCAD, Bentley MicroStation, and Intergraph MGE formats and include them in Release 1.6 of the TSSDS. It was determined that some symbols might be available in the USAE Engineering Manual (EM 1110-1-1807) entitled "Standards Manual for U.S. Army Corps of Engineers Computer-Aided Design and Drafting (CADD) Systems" and Intergraph's ERMA manual. Each attendee will review the symbols used at their organization and make recommendations for any changes to the draft symbols to Mr. Carpenter by February 28, 1996. A copy of the draft symbols which were reviewed at the meeting are included in Appendix G.

Review and Discuss Scope for FY96 Task No. 106

Each of the TSTC's field working groups was assigned a project to oversee and complete in FY96. The Environmental FWG's project is Task No. 106, entitled "Identify and Review Environmental Restoration/Compliance Initiatives and Communicate with Other Agencies/Organizations." A project scope, and draft survey forms, instructions, etc. are included in Appendix C. Mr. Carpenter informed the group that the TSTC's Executive Working Group (EWG) wanted the gathered information to comply as much as possible with Executive Order 12906 and the metadata requirements contained in the Spatial Data Transfer Standard (SDTS). A copy of the metadata requirements was passed out to the meeting attendees.

It was decided that just mailing out the survey forms with a explanatory cover letter to identified points-of-contact (POC) within the Air Force, Army (including Corps of Engineers), and Navy would probably not achieve the desired results. The following plan for completing the project this Fiscal Year was developed:

a. Mr. Carpenter will check with Mr. Rusty Brasfield, FCAD2 - COTR office, for CLINS/A-E Services/Training purchases from the Cordant and Intergraph contracts by *1 March 1996*.

b. The following Environmental FWG members will identify the appropriate environmental restoration and environmental compliance POCs with their service by *1 March 1996*:

Mr.Gonzales - Navy
Mr. Sam Bass - COE
Mr. Phil Hunter- Air Force
Ms Vicky Cwiertnie & Ms Terri Bright - Army

c. Mr. Carpenter will check the September 1995 Tri-Service Symposium and TSTC's POC Database for HTRW, GIS, environmental restoration, and environmental compliance POC's by

23 February 1996.

d. Mr. Carpenter will compile and E-mail to the Environmental FWG members the information collected under Items a and c above, and a draft scope-of-work (SOW) for the individual(s) making telephone interviews, by *12 March 1996*.

e. The Environmental FWG members E-mail a list (name, address, phone number) of environmental restoration and environmental compliance POC names back to Mr. Carpenter by *22 March 1996*. An individual within their organization will be identified, if possible, to make the telephone interviews.

f. A determination of the individual(s) or contractor who will be making the telephone interviews will be made by *22 March 1996*.

g. The TSTC will issue MIPR's to the individual(s) making the telephone interviews, or obtain a contractor, by *5 April 1996.*

h. The TSTC will develop the database and HTML application permitting direct input of the survey information via the TSTC's Homepage on the Internet by *20 March 1996*.

i. The TSTC will compile the draft survey and make available with a Web Page link by *30 April 1996.*

k. Mr. Kyburg will present the project's findings to the TSTC's Field Technical Advisory Group (FTAG) at the *May 1996 meeting*.

l. The TSTC will mail the survey forms with an explanatory cover letter to identified federal and state government organizations, institutions, and universities.

The survey forms in Appendix H will be reorganized as follows:

1. *Initiatives/Web Site* (Part 2) (Items 1-19) - Electronic Information Management Standards, Initiatives, Web Site.

2. *Personal Information* (Part 1) (Items 1-11) (Give amount of time)

Add an Item 12 - Mailing List (yes) (no)

3. *Optional* (Part 1) (Items 12-27) (Give additional amount of time) Information to help serve you better.

Reword Item 7 (If Government Agency) instead of DoD

Environmental Field Working Group Internet Homepage

The TSTC's internet homepage is located at http://mr2.wes.army.mil. An internet homepage (with hotlink from the TSTC's homepage) will be maintained for each of the TSTC's field working groups. The group discussed the general appearance and content of the Environmental FWG's homepage.

One feature of the homepage will be links to other internet site containing environmental restoration and environmental compliance data and information. A list of some pertinent internet sites are as follows:

http://www.dtic.dla.mil/envirodod/envirodod.htm - *DoD Environmental Restoration Electronic Bulletin Board*

http://denix.cecer.army.mil/denix/denix.html - *Defense Environmental Network and Information Exchange*

http://www.afcee.brooks.af.mil - *Air Force Center for Environmental Excellence*

http://www.usace.mil/env.html - *Environmental Programs Home Page*

http://enviro.navy.mil/envlinks.htm - *Environmental Links*

http://dogbert.ncr.usace.army.mil/ - *Defense Environmental Restoration Program*

http://atsdr1.atsdr.cdc.gov:8080/hazdat.html - ATSDR's Hazardous Substance Release/Health Effects Database

gopher://quasar.tach.net/11/msds - *Material Safety Data Sheets*

gopher://atlas.chem.utah.edu/11/msds - *Material Safety Data Sheets*

http://envirolink.org/envirowebs.html - *EnviroLink Network*

http://enviro.navy.mil - *Navy Environmental Programs*

http://www.epa.gov/ - *Environmental Protection Agency HomePage*

http://www.epa.gov/enviro/html/ef_home.html - *EPA's Envirofacts*

Field Trip To Fort Worth District

Mr. Randall Mayne, USAE District Fort Worth, hosted the Environmental FWG's field trip to the Fort Worth District. The purpose of the trip was to see how the Fort Worth District

was using CADD and GIS technology to accomplish their projects and assignments. The field trip was conducted with "stops" at selected offices within the organization, as summarized below:

a. *Stop No. 1 - Planning Division, Environmental Section GIS.* This office was using both GRASS and ARC/INFO. Some of the projects they performed are (1) Support for military installations; (2) US/Mexico border area mapping for INS ITF-6; (2) USACE DoD nature conservancy MO; (3) remote sensing analysis/flood modeling for regional flood protection studies; (4) support for operations project office; and (5) mapping for environmental studies (EIS).

b. *Stop No. 2 - Planning Division, Economics and Master Planning.* This office was using Intergraph MGE. Some of the projects they performed are (1) Master Planning (Military) (e.g., facilities, mobilization, recreation, landscape, natural resources, automated management, and system development); (2) Master Planning (Civil) (e.g., recreation landscape, flood control, and economics); and (3) Video Imaging (Civil and Military) (marketing videos, public input, and concept design rendering).

c. *Stop No. 3 - Operations Division, Regulatory Section.* This office was using an application developed by CERL in GRASS to manage their Section 404 permit program.

d. *Stop No. 4 - Engineering Division, Design Branch.* Mr. James McKenzie was the system manager for Engineering Division. The majority of their work was accomplished using CADD. Bentley MicroStation was the predominant CADD software used. Some projects were accomplished using Autodesk AutoCAD if requested by the customer.

Supplemental Information

Mr. Dave Koran distributed copies of a standard data format for the chemical analysis of environmental samples which are under development for use by the Corps of Engineers and Environmental Protection Agency (EPA). A copy of this information is included in Appendix H.

Mr. Gonzales provided information on NORM, a Navy Environmental Desktop application which proforms cost estimating, relative risk, regulatory tracking, and budgeting functions. A copy of this information is included in Appendix I.

Information concerning the EPA's Vendor Information System for Innovative Treatment Technologies (VISITT) database, Version 4.0 is included in Appendix J. This software is currently available free of charge from the EPA. VISITT provides up-to-date information on the availability, performance and cost effectiveness of various HTRW innovative treatment technologies.

Appendix A

Guidelines for Processing and Closing out Military Interdepartmental Purchase Requests (MIPRs)

General Guidelines for Clearing up MIPRs

1. When the MIPR is received:

a. Appropriate accepting official must sign and date the MIPR.

b. FAX a copy of the signed MIPR to FAX number 601-634-4584. Send it to the attention of the Tri-Service CADD/GIS Technology Center (TSTC) Point-of-Contact (POC). The TSTC POC is the individual facilitating or coordinating the meeting or project the MIPR is funding.

c. Also FAX a copy of the signed MIPR to FAX number 601-634-3191, ATTN: BUDGET DIVISION.

d. Mail the original signed MIPR to the Waterways Experiment Station (WES) Finance & Accounting Division office at the address provided on the MIPR.

e. It is recommended that a unique account be established for the MIPR. This will make it easier to track the money and close out the MIPR. This account number should be used on all travel orders, or for all labor charges, funded by the MIPR.

2. Submitting Bills to WES for Travel Related Expenses:

a. Complete the Travel Voucher within a few days after returning from the meeting and process according to local procedures.

b. A bill in the amount on the Travel Voucher should be prepared by your Finance Management office and submitted to WES. The bill should be marked "Partial" if the total cost for the activity is not included. For instance, airline bills may be received several weeks after the time of travel.

c. The bill should be marked "Final" if all costs associated with the travel activity have been included in the bill, or if the billed amount is the last cost incurred.

d. Complete Paragraph 12b of DD Form 448-2 to release any funds remaining in the MIPR. The MIPR cannot be "closed out" until WES has received a "Final" bill and any remaining funds have been released using DD Form 448-2.

Appendix B

May 1995
Environmental Field Working Group Objectives

Tri-Service CADD/GIS Technology Center
Environmental Field Working Group
Objectives
(From May 1995 Meeting)

The five broad objectives for the Environmental FWG to address were identified as follows:

(1) *Implementation of CADD/GIS Technology for environmental business practices (Implementation)* - Includes (a) road show (implementation pilot project) which represents the life cycle approach to environmental restoration and compliance at an installation; (b) Tri-Service Spatial Data Standards, domains, definitions, and transfer standards for environmental restoration and compliance; (c) environmental database, federal/state/local regulations, applicable or relevant and appropriate requirements (ARARs) "yellow pages" (on internet/bulletin board); (d) groundwater modeling (includes groundwater modeling/GIS link); (e) DoD environmental compliance database; (f) risk ranking; (g) archiving of environmental records with link to GIS (document imaging, storage, retrieval system); (h) environmental symbols and visualization tools for GIS; (i) evaluate and recommend environmental data acquisition, data interpretation, data consolidation, remote sensing, etc. methods; (j) interface with legacy program at Mojave Desert Region (interoperability); (k) standard environmental restoration and compliance SQL queries.

(2) *Review, identify, and communicate with other environmental DoD and non-DoD initiatives (Initiation/Awareness)* - Includes (a) identify other agency environmental initiatives which are similar; (b) review and input from non-DoD organizations.

(3) *Evaluate and develop environmental training and installation support (Procurement & Installation)* - Includes (a) evaluate and recommend CADD and GIS hardware/software, and environmental software, for environmental applications at Tri-Service installations; (b) evaluate and recommend environmental software for inclusion in NAVFAC CAD2 contract; (c) support for contracting for electronic deliverables; (d) evaluate, and develop recommendations concerning available CADD/GIS/Computer training for environmental applications; (d) develop CADD/GIS/computer training for environmental applications which is not currently available.

(4) *Develop evaluation standards for feedback, and provide feedback (Evaluation)* - Includes (a) evaluation checklist; (b) technical support group (standards, software, hardware); (c) communications (case studies, lessons learned, e-mail, POC's).

Appendix C

Task No. 106

Identify and Review Environmental Restoration/Compliance Initiatives and Communicate with other Organizations

FUNCTION: COMMUNICATION

STRATEGY: COMMUNICATION

TASK#: **106**
TITLE: IDENTIFY AND REVIEW ENVIRONMENTAL RESTORATION/COMPLIANCE INITIATIVES AND COMMUNICATE WITH OTHER AGENCIES/ORGANIZATIONS

1. Originating Office:

Environmental Field Working Group, Chairperson: Chris Kyburg, SOUTHWESTDIV NAVFACENGCOM, Code 1813.CK, 1220 Pacific Hwy, San Diego, CA 92132, phone: (619)532-1229, FAX: (619) 532-2469, E-mail: cekyburg@efdswest.navfac.navy.mil

Vice Chairperson: Sam Bass, CEMRD-ED-TG

Air Force Proponent - Gary Huneycutt
Army Proponent - Bart Ives/Rik Wiant (703-695-1375/355-0086), ives@pentagon-acsim1.army.mil
Corps Proponent - James Wolcott (202-761-1200), James Huang (202-761-8883)
Navy Proponent - Stephen Gonzales/Jim Carberry
Center POC - Bobby Carpenter
FWG Proponent - Steve Gonzales

2. Requirement: Facilitate the transfer of information between various tri-service organizations, the Environmental Protection Agency (EPA), and other appropriate organizations in the field of environmental restoration and compliance.

3. Justification/Benefits: There is duplication of effort and insufficient communication in numerous areas involved with the accomplishment of environmental restoration and compliance activities. Many times DoD installations located in close proximity expend resources gathering duplicate information. The lack of communication between the tri-services, federal, state, and local organizations results in the inefficient utilization of resources.

4. Objectives: Objective is to provide a means to transfer information and communicate with various tri-service organizations, the Environmental Protections Agency (EPA), and other appropriate organizations in the field of environmental restoration and compliance.

5. Approach:

a. Develop questionnaire for use in telephone interviews, for mailout, and for posting on the Tri-Service CADD/GIS Technology Center's (TSTC's) Internet Homepage.

b. Contact various DoD Field Operating Activities FOAs, EPA (HQ and Regions), non-DoD federal agencies, state and local agencies, universities, and institutions to identify environmental CADD/GIS restoration and compliance initiatives and information sources. Contact will be made through a combination of telephone interviews and mailed questionnaires.

c. Design database and HTML application permitting direct input of the questionnaire information on the TSTC's Internet Homepage.

d. Develop hardcopy and electronic report summarizing findings. Publish hardcopy report. Make electronic report available on the TSTC's Homepage.

FUNCTION: COMMUNICATION

STRATEGY: COMMUNICATION

TASK#: **106**
TITLE: IDENTIFY AND REVIEW ENVIRONMENTAL RESTORATION/COMPLIANCE INITIATIVES AND COMMUNICATE WITH OTHER AGENCIES/ORGANIZATIONS - Page 2

6. Cost: $30,000

7. Product: Written and electronic report summarizing identified information concerning CADD/GIS environmental compliance and restoration initiatives and activities, along with a mechanism for continual input and update of initiatives and activities on the TSTC's Internet Homepage.

8. Customers: Project managers, geologists, engineers, facility engineers, and other personnel involved with environmental restoration/compliance activities.

9. Remarks: This is the Environmental FWG's FY-96 project.

Tri-Service CADD/GIS Technology Center
Environmental Field Working Group
Environmental Restoration (ER) and Environmental Compliance (EC) Activities
Survey
Information Sheet

PRIVACY ACT STATEMENT:

AUTHORITY*: 5USC 301,10 USC 8012*

PURPOSE**:** The Tri-Service CADD/GIS Technology Center's (TSTCs) Environmental Field Working Group is currently undertaking an effort to identify and review environmental restoration (ER) and environmental compliance (EC) initiatives, and to communicate with other agencies and organizations involved with such activities. The ER and EC initiatives are to include existing initiatives, initiatives currently under development, and initiatives to be developed in the future. The agencies and organizations of concern include the Department of Defense (DoD); Environmental Protection Agency (EPA); other branches of the federal, state, and local government; research institutions; and universities.

The purpose of this effort are to: (1) Minimize the duplication of effort, encourage communication, and facilitate the transfer of available information and knowledge concerning ER and EC activities between the various DoD, EPA, non-DoD Federal Government, schools/universities, contractor, and other appropriate organizations; and (2) Determine the extent that CADD, GIS, and other computerized technology are used for accomplishing ER and EC activities, determine training needs, and determine methods for facilitating the greater usage of this technology in the future.

The findings of this effort will be summarized in a technical report which will be available for distribution throughout the DoD, Federal Government, and public. An electronic version of the report will be made available on the TSTCs homepage on the internet at address http://mr2.wes.army.mil. The TSTC will submit a summary of the CADD/GIS usage, the identified CADD/GIS training needs, and the identified future CADD/GIS software capability needs to the various CADD and GIS software vendors. The TSTC will develop the CADD/GIS training sessions which are not commercially available.

ROUTINE USES: Information gathered through this survey will be included in a technical report, the purpose of which will be to encourage communication, and facilitate the transfer of available information and knowledge concerning ER and EC activities between the various DoD, EPA, non-DoD Federal Government, schools/universities, contractor, and other appropriate organizations.

STATUS OF RESPONDENT PARTICIPATION: Participation is voluntary.

ACTIONS TO BE TAKEN IF ALL OR PART OF THE REQUESTED INFORMATION IS NOT PROVIDED: No action will be taken if the members do not wish to complete this questionnaire.

GENERAL: The TSTC was established at the USAE Waterways Experiment Station (WES), Information Technology Laboratory (ITL) in October 1992. It's mission is to function as a coordination center and rely on the capabilities throughout the Department of Defense (DoD) for the accomplishment of specific tasks and application development related to CADD/GIS applications and technology. The functions of the TSTC are to provide limited applications development, promote communications, develop standards, provide technical consultancy, provide a technical role in acquisitions, interface with professional organizations and industry, evaluate technological developments, and to recommend necessary CADD/GIS policy.

The function of the TSTC's Environmental Field Working Group (EnvFWG) is to provide guidance and input; recommend projects; identify needs; and assist the TSTC in accomplishing its projects, specifically in the area of environmental management (e.g., environmental engineering, restoration, and compliance).

The TSTC functions under the guidance and direction of the Executive Steering Group composed of Dr. Robert Wolff (Air Force), present chairman of the group; Mr. Harry Zimmerman (Navy); BG Robert Herndon (Army); Dr. Get Moy (Office of the Secretary of Defense (OSD)); and Mr. Richard Armstrong (Army Corps of Engineers). The goals and objectives of the TSTC are reviewed and guided by the Executive Working Group, currently chaired by Mr. Ed East (Army Corps of Engineers), and composed of Mr. Deke Smith (Navy), Mr. Stan Shelton (Army), LtCol Mike Kaminskas (Air Force), Mr. Don Ritenour (Air Force), Mr. M.K. Miles (Army Corps of Engineers), Mr. Jim Carberry (Navy), Mr. Tom Rutherford (OSD), and Mr. Paul Herold (Coast Guard). Dr. Robert W. Whalin is the Director of WES, and COL Bruce K. Howard, EN, is the Commander. Dr. N. Radhakrishnan is the Director of ITL, and Mr. Carl S. Stephens is Chief of TSTC.

The members of the EnvFWG currently include Mr. Christopher Kyburg, SW Division NAVFACENGCOM, present chairman of the group; Mr. Sam Bass, USAE District Omaha, Corps HTRW Center of Expertise, present vice-chairman; Mr. Steven Gonzales, NAVFAC HQ; Mr. Tom Stephan, Northern Division NAVFACENGCOM; Mr. Phil Hunter, HQ Air Force Center for Environmental Excellence (AFCEE); Mr. Mung Lun Yuen, HQ AFCEE; Mr. Lawrence Mann, USAE District, Seattle; Ms Vicky Cwiertnie, Army Aberdeen Proving Ground; Mr. Kamel Mardini, Air Force Aeronautical Systems Center (ASC); and Mr. Greg Prudhomme, Fort Polk.

DEFINITIONS: For the purpose of this survey, the following terms and definitions apply:

Environmental Restoration (ER) - Activities such as site assessments; site investigations; studies; feasibility studies; remedial designs; remedial actions; treatment, reduction, or removal concerning hazardous, toxic, and radioactive waste (HTRW), ordnance and explosive waste (OEW), chemical warfare materials, and biological warfare materials in the air, soil, sediment, groundwater, and/or surface water, which are, or have the potential to be, detrimental to life and ecosystems on the earth. Also called environmental remediation and environmental cleanup. Includes the Installation Restoration Program (IRP), Defense Environmental Restoration Program at Formerly Used Defense Sites (DERP-FUDS), and Superfund.

Environmental Compliance (EC) - Activities involving the management of chemicals and hazardous materiels and wastes, processes, and activities in such a manner to comply with federal, state, and/or local environmental laws and regulations. Also includes studies and abatement activities involving building

environmental hazards (e.g., asbestos, lead, radon, pcbs, etc.), and the management of fuel and chemical storage tanks and appurtenances.

SURVEY INSTRUCTIONS:

This survey consists of two parts, and has been designed to require a minimum amount of time to complete. It can be completed by one person in each separate office within an organization that is involved with environmental restoration and/or environmental compliance activities. Each individual completing and returning the questionnaire will be provided a copy of the completed technical report, and will be placed on the Tri-Service CADD/GIS Technology Center's mailing list to receive future information concerning the Center's programs and CADD/GIS items of interest in the fields of environmental restoration and compliance. If you have any questions concerning this effort, please contact **Bobby Carpenter** at phone no. (601) 634-4572.

Please mail, FAX, or E-mail the completed questionnaire to the following address:

Bobby Carpenter
Tri-Service CADD/GIS Technology Center
Waterways Experiment Station
CEWES-IM-DA
3909 Halls Ferry Road
Vicksburg, MS 39180-6199
Fax no. 601-634-4584
E-mail address: carpenb@ex1.wes.army.mil

Additional information concerning this effort can also be provided by the following individuals:

Larry Mann; USAE District, Seattle; phone no. 206-764-6737; E-mail address: lawrence.v.mann@nps.usace.army.mil

Mung Lun Yuen; HQ Air Force Center for Environmental Excellence; phone no. 210-536-4170.

Philip Hunter; HQ Air Force Center for Environmental Excellence; phone no. 210-536-5281; E-mail address: phunter@afceeb1.brooks.af.mil.

Terri Bright; Army Environmental Center; phone no. 410-612-7078; E-mail address: tabright@aec1.apgea.army.mil

Victoria Cwiertnie; Army Aberdeen Proving Ground; phone no. 410-278-6755; E-mail address: vcwiert@eagle.apg.army.mil.

Sam Bass; USAE Hazardous and Toxic Waste Mandatory Center of Expertise (HTWMCX); phone no. 402-697-2654; E-mail address: c0edtdbb@mrd42.usace.army.mil.

Christopher Kyburg; Southwest Division, Naval Facilities Engineering Command; phone no. 619-532-1998; E-mail address: cekyburg@efdswest.navfac.navy.mil.

Steven Gonzales; HQ Naval Facilities Engineering Command; phone no. 703-325-0356; E-mail address:

scgonzales@hq.navfac.navy.mil.

Part 1. Extent CADD/GIS Technology is Used and Training Needs - This part of the survey focuses on: (1) The types of ER and EC activities performed; (2) the extent that CADD, GIS, and other computerized technology are used for ER and EC; (3) specific training needs for using CADD/GIS/computer software to accomplish ER and EC activities; and (4) future CADD/GIS/computer software capabilities or enhancements needed for ER and EC activities.

Part 2. Initiatives - This part of the survey focuses on past, current, and/or future ER and EC initiatives. For the purpose of this questionnaire, an ER/EC initiative can consist of:

a. Environmental restoration and environmental compliance (ER/EC) programs and projects which made/make use of Computer-Aided Design and Drafting (CADD) and/or Geographic Information System (GIS) technology.

b. Sources of the essential information and requirements (in electronic or paper format) for ER/EC activities (e.g., federal, state, and/or local regulations; state, local, and federal regulator accepted cleanup criteria and concentrations; background concentration data; risk assessment criteria and data; material safety data sheets (MSDS); applicable or relevant and appropriate requirements (ARARs); lessons learned; CADD details; standard operating procedures (SOPs); historic and current air, soil, groundwater, surface water, and sediment environmental quality data; historic and current aerial photographs and maps; boring and well logs, development data, and monitoring data; etc.). The sources of information may be available either through: (a) internet homepages, (b) electronic bulletin boards; (c) offices which disseminate information; and (c) experienced points-of-contact.

c. Database schemas and programs designed to manage data and facilitate the accomplishment of an environmental restoration and/or environmental compliance activities.

d. Computer programs which perform analysis, management, modeling, or other functions relating to ER/EC activities.

Part 1
Environmental Restoration (ER) and Environmental Compliance (EC) Activities:
Use of CADD, GIS, and Other Computerized Technology

1. Name *(of individual completing Questionnaire)***:**

_____

2. Discipline *(e.g., geologist, environmental engineer)***:**_____

3. Commercial Phone Number: -

_____

4. FAX Number:

_____

5. Internet Email Address:

_____

6. Position *(e.g., Chief, Environmental Branch)*:

_____

7. DoD Branch *(check one that applies)*:

_____a. Air Force _____b. Army _____c. Army Corps of Engineers _____d. Marines

_____e. Navy _____f. Coast Guard _____g. Other

_____

8. Organization *(e.g., Waterways Experiment Station)***:**

_____

9. Office Title *(e.g., Environmental Restoration Branch)*_____

10. Office Code *(e.g., CEWES-IM-DA)*:_____

11. Mailing Address:_____

_____

_____

_____

12. Categories of ER/EC Work Performed in your Specific Office *(check all that apply)*:

a. Environmental Restoration.

_____(1) Installation Restoration Program (IRP) _____(2) Superfund _____(3) Civil Works

_____(4) Defense Environmental Restoration Program - Formerly Used Defense Sites (DERP-FUDS)

_____(5) Hazardous, Toxic, and Radioactive Waste (HTRW) _____(6) Medical Waste _____(7) Ordnance and Explosive Waste

_____(8) Chemical Warfare Materials _____(9) Biological Warfare Materials

_____(10) Other_____

b. Environmental Compliance.

_____(1) Hazardous Materiels Management _____(2) Hazardous Waste Management _____(3) Storage Tank Management.

_____(4) Building Environmental Hazards (e.g., asbestos, lead paint, radon). _____(5) Air Emissions

_____(6) Noise _____(7) Storm Water _____(8) Industrial Waste _____(9) RCRA Compliance

_____(10) Solid Waste Management _____(11) Recycling _____(12) Other_____

13. Phase(s) of ER/EC work Performed in your Specific Office *(check all that apply)*:

_____a. Site Assessments _____b. Site Investigations _____c. Feasibility Studies

_____d. Treatability Studies _____e. Remedial Design _____f. Remedial Action.

_____g. Monitoring _____h. Reporting _____i. Project/Program Management

_____j. Risk Assessment _____k. Asbestos Abatement _____l. Lead Paint Abatement

_____m. Facility Management _____n. Other_____

14. What types of Commercially-Available or Government-Developed Computer Programs are used specifically for your Office's ER/EC work? *(list computer software packages used)*

Function	Software/Program Name	Manufacturer Name
example: *Project Management*	*FUDS Database*	*Waterways Experiment Station*
example:Feasibility Studies/Remedial Design	*Visitt*	*Environmental Protection Agency*
_____	_____	_____
_____	_____	_____
_____	_____	_____

15. Do you currently have the capability to access the Internet? *(circle one)*

YES NO

16. Is Computer-Aided Design and Drafting (CADD) software used to accomplish, or assist in accomplishment, of any phase of the ER/EC work? *(circle all that apply)*

YES (in this office) NO YES (by contractor)

YES (by a support office. Name of office _____)

17. Approximate Number of Years of CADD usage for ER/EC type work: *(check one)*

_____a. 1 - 2 years _____b. 2 - 5 years _____c. more than 5 years

_____d. None, and will probably not be used in near future. _____e. None, but will possibly be used in near future.

_____f. None, but will definitely be used in near future.

18. What CADD platform(s) is/are most frequently used? (A CADD platform consists of a basic CADD software package plus and operating system). *(check one, and provide other applicable platform type)*

_____a. AutoCAD/UNIX _____b. AutoCAD/Windows NT _____c. AutoCAD/Windows 3.x

_____d. MicroStation/UNIX _____e. MicroStation/Windows NT _____f. MicroStation/Windows 3.x

_____g. Other _____

19. What CADD application software(s) is/are used? (A CADD application software package operates "on-top-of," or in conjunction with, the basic CADD software package (e.g., Intergraph Insitu)). *(list any CADD application software packages used)*

_____

_____

_____

20. Is Geographical Information System (GIS) software used to accomplish, or assist in accomplishment, of any phase of the ER/EC work? *(circle all that apply)*

YES (in this office) NO YES (by contractor)

YES (by a support office. Name of office _____)

21. Approximate Number of Years of GIS usage for ER/EC type work: *(check one)*

_____a. 1 - 2 years _____b. 2 - 5 years _____c. more than 5 years

_____d. None, and will probably not be used in near future. _____e. None, but will possibly be used in near future.

_____f. None, but will definitely be used in near future.

22. What GIS platform(s) is/are most frequently used? *(check all that apply)*

_____a. Intergraph MGE/UNIX _____b. Intergraph MGE/Windows NT _____c. GRASS

_____d. ESRI Arc/INFO/UNIX _____e. ESRI ArcCAD _____f. ESRI Arc/INFO/PC

_____g. Other _____

23. What GIS software accessory or application package(s) is/are used?

(A GIS application software package operates "on-top-of," or in conjunction with, the basic GIS software package (e.g., Intergraph ERMA)). *(List any GIS accessory or application software packages used)*

_____

_____

_____

24. What database software is used with the CADD and/or GIS platform? *(check all that apply)*

_____a. Oracle _____b. Informix _____c. dBase IV _____d. Other _____

25. What types of CADD/GIS/computer training would help you and/or others in your office do ER/EC work activities better? *(Check and provide information for all that apply)*

_____a. Introductory Use of CADD for ER/EC, Type Preferred (e.g., AutoCAD, MicroStation)_____

_____b. Introductory Use of GIS for ER/EC, Type Preferred (e.g., ARC/INFO, MGE)_____

_____c. How to use CADD software for (give specific types of activities (e.g., manage monitoring well and sampling data)_____

_____

_____d. How to use GIS software for (give specific types of activities (e.g., manage monitoring well and sampling data)_____

_____

_____e. How to use a computer software program which (give specific types of activities (e.g., model contamination plumes)

_____

_____

_____f. Others_____

_____

_____

26. What types of CADD/GIS/computer software capabilities or enhancements do you feel would increase your office's productivity in accomplishing ER/EC related work? *(List recommendations)*

_____

_____

_____

27. Comments:

_____

_____

_____

_____

_____

Please mail, fax, or Email the completed form to the following address:

Bobby Carpenter, Tri-Service CADD/GIS Technology Center, USAE Waterways Experiment Station, 3909 Halls Ferry Road, Vicksburg, Mississippi 39180-6199

phone no. (601) 634-4572 fax no. (601) 634-4584 Email address: carpenb@ex1.wes.army.mil

Part 2
Environmental Restoration (ER) and Environmental Compliance (EC) Activities:
Initiatives

1. Group/Agency/Organization Name: _____

2. Name of Initiative Point of Contact (POC):_____

3. POC Commercial Phone Number: _____

4. POC FAX Number: _____

5. POC e-mail Address:_____

6. POC Mailing Address: _____

_____

_____

_____

7. Manufacturer and Model of Computer Hardware Used: *(e.g., Intergraph TD4)* _____

_____

8. Type and Version of Operating System Used: *(e.g., UNIX, Windows NT, DOS, Windows 3.1)*

_____

9. Type and Version of CADD/GIS Software Used: *(e.g., ESRI ARC/INFO, Autodesk AutoCAD 12, Intergraph MicroStation 4, Intergraph MGE, etc.)*

_____

_____

10. Type and Version of Database Software Used: *(e.g., Oracle, Informix, dBase IV, etc.)*

_____

_____

11. Is Electronic Database Schema/Design Structure Available for use by other Government/DoD Organizations? *(circle one)*

YES NO

12. Type, Version, and Source of Environmental Restoration/Compliance Software Used:

*(e.g., volume visualization and analysis modeling, Voxel Analyst NT, Intergraph Corporation)*_____

_____

_____

13. Is Environmental Restoration/Compliance Software Available for use by other Government/DoD Organizations? *(circle one)*

YES NO

14. Initiative Summary/Description and Status: *(e.g., Project Name, Project Location, Scope, Contractor Name and Address, Contractor POC (optional), and Major Milestones):*

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

15. Initiative Charter (if any):

_____

_____

16. Environmental Restoration/Compliance Regulations/Data/Information Summary/Description, Availability, and How to Acquire:

_____

_____

_____

_____

17. Other Pertinent Information:

_____

_____

_____

18. General description and Address of Internet and Bulletin Board Resources Available (provided by group/organization):

_____

_____

WWW Address: _____

FTP Address: _____

TELNET Address: _____

Bulletin Board Phone Number: _____

Homepage Address: _____

CompuServe Address: _____

America Online Address: _____

Prodigy Address: _____

Other Internet Address:_____

19. Comments: _____

_____

Please mail, fax, or Email the completed form to the following address:

Bobby Carpenter, Tri-Service CADD/GIS Technology Center, USAE Waterways Experiment Station, 3909 Halls Ferry Road, Vicksburg, Mississippi 39180-6199

phone no. (601) 634-4572 fax no. (601) 634-4584 Email address: carpenb@ex1.wes.army.mil

Appendix D

Update on Tri-Service CADD/GIS Technology Center and Center's FY96 Projects View Graphs

The view graphs contained in this appendix is available in a Microsoft Powerpoint Version 4.0 format. The file name is FEB96.PPT.

A paper copy of the view graphs can be obtained by contacting Bobby Carpenter, TSTC, at phone number 601-634-4572, fax number 601-634-4584, or E-mail address carpenb@ex1.army.mil.

Appendix E

Tri-Service CADD/GIS Technology Center FY 96 Projects

Task	
1	PUBLISHING THE CADD/GIS BULLETIN
2	TRI-SERVICE A-E DELIVERABLES STANDARDS (Combined w/Task 86)
3	FEDERAL GEOGRAPHIC DATA COMMITTEE (FGDC) PARTICIPATION
6	SUSTAIN CENTER TRAINING/WORKSHOPS
11	UPKEEP OF POC DIRECTORY, MOSAIC INTERNET INTERFACE, AND LESSONS LEARNED
13	MAINTENANCE, REVISION, AND IMPLEMENTATION OF GIS/SPATIAL DATA STANDARDS
15	FACILITY MANAGEMENT STANDARD
17	MAINTENANCE/REVISION OF A/E/C CADD STANDARDS - (Components 1, 2, 3)
23	GENERIC DETAILS LIBRARY UPDATES AND REVISIONS
25	CADD COST ESTIMATING INTERFACE
33	LIBRARY OF PRODUCTIVITY ENHANCEMENT UTILITIES
40	EVALUATION OF ALTERNATE TECHNOLOGY
43	COMPLETE CONSTRUCTION THESAURUS (Integration Information Model)
55	SUPPORT NIBS CADD COUNCIL
62	ENGINEERING DOCUMENT MANAGEMENT SYSTEM (EDMS)
79	STRATEGIES AND GUIDELINES FOR IMPLEMENTING THE CONTENT STANDARDS FOR DIGITAL GEOSPATIAL METADATA AT DoD INSTALLATIONS
82	ELECTRONIC BID SET
85	SERVICES SUPPORT OF DoD DATA STANDARDIZATION

Appendix F

Air Force Installation Restoration Program Information Management System View Graphs

A paper copy of the view graphs can be obtained by contacting Bobby Carpenter, TSTC, at phone number 601-634-4572, fax number 601-634-4584, or E-mail address carpenb@ex1.army.mil.

Appendix G

Tri-Service Spatial Data Standards
Draft Environmental Hazards Entity Set Symbols

A paper copy of the symbols can be obtained by contacting Bobby Carpenter, TSTC, at phone number 601-634-4572, fax number 601-634-4584, or E-mail address carpenb@ex1.army.mil.

Appendix H

Format for Chemical Analysis of Environmental Samples

A paper copy can be obtained by contacting Bobby Carpenter, TSTC, at phone number 601-634-4572, fax number 601-634-4584, or E-mail address carpenb@ex1.army.mil.

Appendix I

NORM View Graphs

The view graphs contained in this appendix is available in a Microsoft Powerpoint Version 4.0 format. The file name is WHTISNRM.PPT.

A paper copy of the view graphs can be obtained by contacting Bobby Carpenter, TSTC, at phone number 601-634-4572, fax number 601-634-4584, or E-mail address carpenb@ex1.army.mil.

Appendix J

EPA
Vendor Information System for Innovative Treatment Technologies (VISITT) Database

A paper copy can be obtained by contacting Bobby Carpenter, TSTC, at phone number 601-634-4572, fax number 601-634-4584, or E-mail address carpenb@ex1.army.mil.